composing it; for the magnetic needle is deflected in an equal degree by every part. He succeeded in exhibiting the rotation of a piece of charcoal, and of a column of water, while transmitting voltaic electricity, round the pole of a magnet. Having noticed a difference of temperature in the fluid conductor in the vicinity of the two poles, he was led to investigate the cause of this phænomenon. A rectangular box being divided into three compartments by two partitions of bladder, and filled with water, and the wires from the two poles of the battery being inserted into the extreme compartment, the temperature of the water surrounding the positive pole was found to be higher than that surrounding the negative pole, and that in the middle compartment highest of all. These differences he ascribes to the cooling effects of the disengagements of the several gases at each respective pole, the volume of the hydrogen being double that of the oxygen, producing twice the effect. With metallic solutions, the reverse takes place, the effect depending in every case upon the relative specific heat of the substances disengaged at the two poles.

The reading of a paper, entitled, "On the Organs of the Human Voice," by Sir Charles Bell, Knt. K.H., F.R.S., was commenced.

February 9, 1832.

HIS ROYAL HIGHNESS THE DUKE OF SUSSEX, K.G., President, in the Chair.

A paper was read, entitled, "Some Remarks on an Error respecting the Site and Origin of Graham's Island." By Capt. W. H. Smyth, R.N. K.F.M. F.R.S.

The author rectifies an erroneous assertion, originating from the report of Captain Larmour, who in the year 1800, when commanding the Wassanaer, a troop-ship on the Egyptian expedition, thought he observed a shoal of four fathoms water with breakers, within a mile of the latitude and longitude of the new volcanic island. The author has determined, by his own observations, that no such reef exists in that spot, nor is the assigned place of this shoal near that of Graham's Island, which arose considerably to the eastward, from a depth of above a hundred fathoms below the surface of the water. A knoll, with only seven fathoms of water upon it, was discovered not far from the site of these reports. The Adventure bank extends from Sicily nearly to Pentellaria, where the water deepens at once from 76 fathoms to above 375 fathoms, at which no bottom was met with. But, even on the supposition that what Capt. Larmour imagined he saw was the result of a temporary subaqueous volcanic eruption, it could not have justified the assertion of there being breakers with four fathoms upon them; and still less does it afford any foundation for the hypothesis that Graham's Island was formed by the mere lifting up of such shoal.

A paper was also read, entitled, "Researches in Physical Astronomy." By J. W. Lubbock, Esq., M.A. V.P. and Treasurer R.S.